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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/010,075	11/13/2001	Earl Cranor	1471.077	2710

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EXAMINER

METZMAIER, DANIEL S

ART UNIT	PAPER NUMBER
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1712

DATE MAILED: 09/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/010,075	CRANOR, EARL	
	Examiner	Art Unit	
	Daniel S. Metzmaier	1712	

S.C.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 March 2002 & 14 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/7/02 & 4/14/03</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-9 are pending.

Applicants' courtesy by providing a copy of the original declaration and a post card receipt to complete the file is appreciated.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claimed compositions and articles are indefinite since it is unclear what are the metes and bounds of the claimed; "particularly susceptible to environmental degradation", "disintegratable", "partially biodegradable", and "biodegradable". Applicants set forth definitions at page 10, lines 1-8, of the instant specification, wherein said definitions are not set forth in the instant claims and said definitions are unclear as to their metes and bounds.

"Disintegrates" is defined as a material which self disintegrates so as to lose its physical form. It is unclear what applicants intend as "self disintegrates", e.g., in a natural environment, in air, in water such as the ocean, in acidic environment, in a basic environment, in an inert environment. At page 8, lines 9-10, applicants set forth that normal plastics degrade very slowly. The examiner sees no distinction between the terms "degrade" and "disintegrates".

"Biodegradable" is defined as a material of whose component parts reenter the food chain within a reasonable period time.

"Reentering the food chain" means that the component can be utilized as a raw material (food) by either plants bacteria.

None of said definitions define a timeframe, which said definitions are clearly dependent, e.g., a day, a week, a year, a century, a millenium. It is unclear what the scope of the claims are since no timeframe for "particularly susceptible to environmental degradation", "disintegratable", "partially biodegradable", and "biodegradable"; is set forth.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Rauhut et al, US 3,671,450. Rauhut et al (examples and claims) discloses chemiluminescent gels, wherein the gel itself is the containment system for the chemiluminescent light. Each of said gelling agents making up the Rauhut et al gels are biodegradable. The Rauhut et al reference (claim 3) specifically claims polyvinyl alcohol as a gelling agent as required in instant claim 6.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-5 and 7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Holland et al, US 5,158,349, or Ladyjensky, US 5,370,828; each as evidenced by applicants admission at page 8, lines 9-10, of the instant specification that normal plastics degrade very slowly. Holland et al (Figures; column 3, lines 8-15; and claims) and Ladyjensky (column 3, lines 3-18; and claims) discloses light sticks employing polyethylene, polyethylene terephthalate (PET) or polyesters. The instant claims do not distinguish over the prior art since said polymers would be expected to be susceptible to environmental degradation, disintegratable, and biodegradable. Since no timeframe is set forth in the claims, said claims cannot be said to distinguish over the prior art.

To the extent the Holland et al and Ladyjensky references differ from the claims in the specificity of the degree of susceptibility to environmental degradation, disintegratability, and biodegradability disclosed in the references, some variation of said degrees would have been expected based on the different polymers disclosed for use in the Holland et al and Ladyjensky references.

7. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Holland et al and Ladyjensky references as applied to claims 1-5 and 7 above, and

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further in view of Suzuki et al, US 5,409,751. The Holland et al and Ladyjensky references disclose light sticks employing polyethylene, polyesters or PET.

To the extent the Holland et al and Ladyjensky references differ from the claims in the use of a particular polymer employed as the containment system for the chemiluminescent compositions, Suzuki et al (column 1, lines 13-15 and 43-52) teaches environmentally more friendly polymers that are further transparent including thermoplastic lactic acid based polymers as a replacement for the conventionally employed polyethylene, polypropylene and PET.

The Ladyjensky reference (column 3, lines 15) discloses the use of polyesters and at least suggest the use of various polyesters known in the packaging arts.

These references are combinable because they teach polymers employed in packaging and replacements therefore. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to employ the environmentally advantageous and advantageously transparent polylactic acid thermoplastic polymers in making the light sticks of the Holland et al and Ladyjensky references.

8. Claim 9 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Chopdekar et al, 5,597,517. Chopdekar et al (column 4, line 13; examples and claims) discloses a biodegradable chemiluminescent light producing system, which may employ the use of a benzoate ester, i.e., ethyl benzoate. Product-by-process claims are examined based on the product rather than the process said product was made. Claim 9 or claim 8 does not specifically define the materials making up the chemiluminescent compositions other than a chemical light

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oxalate system, a chemical activator system including a peroxide , and a carboxy-phenyl group containing solvent. Said components are set forth in the Chopdekar et al reference. Chopdekar et al (column 4, line 13) specifically contemplates the use of ethyl benzoate as a solvent and applicants claims do not exclude the further solvents.

To the extent the Chopdekar et al reference differs from the claims in sufficient specificity of the chemiluminescent compositions disclosed in the Chopdekar et al reference as claimed teaches the components for making a more biodegradable (column 2, lines 15-39) chemiluminescent composition. It would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to vary the materials disclosed in the Chopdekar et al reference for the advantage of achieving a more biodegradable, less toxic and/or more stable composition.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chopdekar et al, 5,597,517. The Chopdekar et al reference (column 4, line 13; examples and claims) discloses a biodegradable chemiluminescent light producing system , which may employ the use of a benzoate ester, i.e., ethyl benzoate.

Claim 8 is directed to a process of selecting a biodegradable chemiluminescent system. No quantitative values for the particular parameters, characteristics, or stability are defined in the claim. The step of "selecting" and "optimizing" has been interpreted as choosing and/or determining to some undefined extent the most appropriate solvent. The Chopdekar et al reference (column 4, lines 1-21; particularly lines 17 et seq) discloses the step of choosing. The Chopdekar et al reference (column 1, lines 5 et seq) clearly teach the desire of obtaining a high intensity chemiluminescent light. It

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would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to select and to optimize as implicit and/or inherent steps in making the Chopdekar et al reference chemiluminescent compositions. Said steps require no more than routine experimentation of those having ordinary skill in the art at the time of the invention and are well within the ordinary level of skill in the art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (703) 308-0451. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Daniel S. Metzmaier
Primary Examiner
Art Unit 1712

DSM